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Science Literacy – Angry Red Planet

The scenario is getting people to live on Mars by using plants to convert carbon dioxide to oxygen so that the astronauts can live. The mystery the student has to figure out is why this method is not working and what to do to make it all work. The concepts they will take away from this lesson include information on respiration, ecosystem and ecological cycle, chemical and biochemical reactions, carbon dioxide poisoning, and how stress affects physiology and psychology. This would be a good problem solving activity to do before a project that will require students to come to a best conclusion with according to information they are given. The skills they should be learning are literacy, inquiry-based learning, problem solving logic, inductive and deductive reasoning. This could easily be a fun activity for all high school students. Freshman level would be a great with this activity to give them a goal and an introduction to respiration and its cycles. This lesson does give students the chance to observe safe and dangerous levels of gases and how little it takes to make it a dangerous level. It also has a good reference graph that can be read. After going through all the steps, students have to use deductive and inductive reasoning to figure out the solution. I think this would be worthwhile for students at the beginning of learning about respiration and ecology. Students would enjoy the change of pace this challenge would introduce. It would help if it had some more interactive tools, but overall a useful and well-written activity.